

Notice of Allowability

Application No.

10/822,055

Examiner

Michael P. Stafira

Applicant(s)

KIM ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 7/13/2006.
2. ☒ The allowed claim(s) is/are 1-38.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

- a. In claim 7, on page 4, line 1 delete",," after "particles" and insert --on--.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings were received on July 13, 2006. These drawings are approved by the examiner of record.

Allowable Subject Matter

4. Claims 1-38 are allowed over the prior art of record.
5. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art fails to disclose or make obvious an apparatus for detecting particles located on an object having an emitter for irradiating light to the particles on the object in a direction substantially parallel to a surface of the object, the object being disposed on a stage and a detector for detecting the light emitted from the emitter of lights scattered from the particle, and in combination with the other recited limitations of claim 1. Claims 2-6 are allowed by the virtue of dependency on the allowed claim 1.

Regarding claim 7, the prior art fails to disclose or make obvious an apparatus for detecting particles located on an object having an emitter for irradiating a first light and a second light to the particles on the object being disposed on a stage in a first direction and a second direction which are substantially parallel to a surface of the object, the object being disposed on a stage and a detector for detecting the first and second lights emitted from the emitter of lights scattered from the particles and producing a first and second detection signals and a relative position signal between the emitter and the object, and in combination with the other recited limitations of claim 7. Claims 8-16 are allowed by the virtue of dependency on the allowed claim 7.

Regarding claim 17, the prior art fails to disclose or make obvious an apparatus for detecting particles located on an object having a first driver for generating a first relative motion between the first emitter and the object to scan the surface of the object by the first light; a second driver for generating a second relative motion between the second emitter and the object to scan the surface of the object by the second light; a detector for detecting the first and second emitted lights or the first and second lights scattered from the particles, and for generating first and second detection signals to determine positions of the particles; and a data processor for

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analyzing the first and second detection signals to determine positions of the particles, the first and second detection signals comprising a first relative position signal between the first emitter and the object and a second relative position signal between the second emitter and the object from the detector, and in combination with the other recited limitations of claim 17. Claims 18-19 are allowed by the virtue of dependency on the allowed claim 17.

Regarding claim 20, the prior art fails to disclose or make obvious a method for detecting particles located on an object having irradiating a light from an emitter to the particles on the object in a direction substantially parallel to a surface of the object and a detecting the light irradiated from the emitter or the light scattered from the particles employing a dome shaped detector disposed over the object, and in combination with the other recited limitations of claim 20. Claim 21 are allowed by the virtue of dependency on the allowed claim 20.

Regarding claim 23, the prior art fails to disclose or make obvious a method for detecting particles located on an object having the steps of irradiating a first light from an emitter to the particles on the object in a first direction substantially parallel to a surface of the object; generating a first relative motion between the emitter and the object during irradiation of the first light to scan the surface of the object with the first light; detecting the first light irradiated from the emitter or a first light scattered from the particle; generating a relative motion between the emitter and the object; irradiating a second light from the emitter to the particles in a second direction that is different from the first direction and is parallel to the surface of the object; generating a second relative motion between the emitter and the object during irradiation of the second light to scan the surface of the object with the second light; detecting the second light irradiated from the emitter or a second light scattered from the particles; and analyzing first and

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second detection signals and a relative position signal between the emitter and the object created from detecting the first and second lights to recognize a position of the particles, and in combination with the other recited limitations of claim 23. Claims 24-28 are allowed by the virtue of dependency on the allowed claim 23.

Regarding claim 29, the prior art fails to disclose or make obvious a method for detecting particles on an object having the steps of irradiating a first light from a first emitter to particles on the object in a first direction substantially parallel to a surface of the object; generating a first relative motion between the first emitter and the object in a third direction different from the first direction during irradiation of the first light to scan the surface of the object by the first light; detecting the first light irradiated from the emitter or a first light scattered from the particles; irradiating a second light from a second emitter to the particle in a second direction that is different from the first direction and is substantially parallel to the surface of the object; generating a second relative motion between the second emitter and the object in a fourth direction different from the second direction during irradiation of the second light to scan the surface of the object by the second light; detecting the second light irradiated from the emitter or a second light scattered from the particles; and analyzing first and second detection signals to determine the positions of the particles, the first and second detection signals comprising a relative position signal between the emitter and the object created from detecting the first and second lights, and in combination with the other recited limitations of claim 29. Claims 30-31 are allowed by the virtue of dependency on the allowed claim 29.

Regarding claim 32, the prior art fails to disclose or make obvious an apparatus for detecting particles located on an object having an emitter for irradiating light to the particles, the

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object being disposed on a stage in a direction substantially parallel to a surface of the object and a detector for detecting the lights emitted from the emitter or lights scattered from the particle, wherein the detector is disposed over the object and has a dome shape, and in combination with the other recited limitations of claim 32.

Regarding claims 33-37, the prior art fails to disclose or make obvious an apparatus for detecting particles located on an object having an emitter for irradiating a first light and a second light to the particles, the object being disposed on a stage in a first direction and a second direction which is substantially parallel to a surface of the object and a detector for detecting a first and second lights emitted from the emitter or the first and second lights scattered from the particles, and producing a first and second detection signals and a relative position signal between the emitter and the object, and in combination with the other recited limitations of claim 33-37.

Regarding claim 38, the prior art fails to disclose or make obvious an apparatus for detecting particles located on an object having an emitter for irradiating a first light and a second light to the particles, the object being disposed on a stage in a first direction and a second direction which is substantially parallel to a surface of the object and a dome shaped detector for detecting a first and second lights emitted from the emitter or the first and second lights scattered from the particles, and producing a first and second detection signals and a relative position signal between the emitter and the object, and in combination with the other recited limitations of claim 38.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue


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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Michael P. Stafira
Primary Examiner
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September 20, 2006